

ABSTRAK

Pertumbuhan publikasi ilmiah nasional melalui portal SINTA mendorong kebutuhan akan sistem temu-balik informasi yang lebih akurat dan relevan. Namun, pencarian berbasis kata kunci seringkali tidak optimal karena adanya variasi istilah lintas disiplin dan penggunaan sinonim. Untuk menjawab permasalahan tersebut, penelitian ini mengimplementasikan algoritma *lexical chain* pada aplikasi pencarian jurnal SINTA berbasis web. Data primer diperoleh melalui proses *crawling* menggunakan SERP API pada Google Scholar dengan kata kunci tematik, sedangkan data sekunder berupa literatur ilmiah dijadikan landasan metodologis dan evaluatif. Metode penelitian meliputi tahapan pra-pemrosesan teks, pembentukan *lexical chain* menggunakan WordNet/WordNet Bahasa, dan proses *re-ranking* hasil pencarian dengan kombinasi skor BM25 dan skor rantai leksikal. Evaluasi dilakukan dengan metrik Information Retrieval seperti *precision*, *recall*, *Mean Average Precision (MAP)*, dan *nDCG*. Hasil pengujian menunjukkan bahwa integrasi *lexical chain* mampu meningkatkan relevansi pencarian dibandingkan pendekatan berbasis kata kunci murni. Sistem yang dibangun juga berhasil menyediakan fitur pencarian PDF jurnal, filter peringkat SINTA, serta antarmuka yang sederhana namun fungsional. Kesimpulannya, penerapan algoritma *lexical chain* terbukti efektif dalam memperbaiki kualitas pencarian jurnal ilmiah di SINTA, dan dapat menjadi referensi pengembangan sistem temu-balik informasi semantik di Indonesia.

Kata Kunci: *Lexical Chain*, SINTA, Information Retrieval, SERP API, Re-ranking

ABSTRACT

The rapid growth of national scientific publications through the SINTA portal increases the demand for a more accurate and relevant information retrieval system. However, keyword-based searching often produces suboptimal results due to cross-disciplinary terminology variations and synonym usage. To address this problem, this study implements the lexical chain algorithm in a web-based SINTA journal search application. Primary data were collected through crawling using the SERP API on Google Scholar with thematic queries, while secondary data consisted of scientific literature serving as methodological and evaluative references. The research methodology involved text preprocessing, lexical chain construction using WordNet/WordNet Bahasa, and re-ranking of search results by combining BM25 baseline scores with lexical chain scores. Evaluation metrics included precision, recall, Mean Average Precision (MAP), and nDCG. The experimental results demonstrate that integrating lexical chain significantly improves search relevance compared to pure keyword matching. The developed system also successfully provides PDF journal search, SINTA ranking filters, and a simple yet functional user interface. In conclusion, the implementation of the lexical chain algorithm is proven effective in enhancing the quality of journal retrieval in SINTA and may serve as a foundation for future semantic information retrieval systems in Indonesia.

Keywords: *Lexical Chain, SINTA, Information Retrieval, SERP API, Re-ranking*